



IFWO

## RAW SEQUENCE LISTING

DATE: 08/30/2004

PATENT APPLICATION: US/10/773,905

TIME: 14:59:02

Input Set : N:\Crf3\RULE60\10773905.raw.txt

Output Set: N:\CRF4\08302004\J773905.raw

1 <110> APPLICANT: Beck, Jim  
 2 Barnett, Jason  
 3 <120> TITLE OF INVENTION: Detection of Fusarium Species infecting Corn Using the  
 4 Polymerase Chain Reaction  
 5 <130> FILE REFERENCE: 60055  
 6 <140> CURRENT APPLICATION NUMBER: US/10/773,905  
 7 <141> CURRENT FILING DATE: 2004-02-06  
 8 <150> PRIOR APPLICATION NUMBER: US/09/961,755  
 9 <151> PRIOR FILING DATE: 2001-09-24  
 10 <160> NUMBER OF SEQ ID NOS: 24  
 11 <170> SOFTWARE: PatentIn version 3.0  
 13 <210> SEQ ID NO: 1  
 14 <211> LENGTH: 682  
 15 <212> TYPE: DNA  
 16 <213> ORGANISM: Fusarium verticillioides (syn. F. moniliforme)  
 17 <400> SEQUENCE: 1

18	gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaac	60
19	agctatgggt caagtccgat atcttttagga gaagtcttat tgtgagggcg agttttataa	120
20	caccatagga ctggccgccc catatgaaaa gattatatta gaattgaatg aagctttgtt	180
21	tatatattga taatgacagt atatatatcg tgtcttgact aattgctgct cagcagtcgc	240
22	ggtaatacgt aagagactag tgttattcat ctttaattagg tttaaagggg acccagacgg	300
23	tcaatatagc ttataaaatg ttagtacttg actagagttt tatgtaagag ggcagtactt	360
24	gaggaggaga gatgaaattt cgtgatacca aagggaactct gtaaaggcga aggcagccct	420
25	ctatgtaaaa actgacgttg aaggacgaag gcacagagaa caaacaggat tagataccca	480
26	agtagtcttt gcagtaaatg atgaatgcca taggttagat ggggtgggta gtcgtagtgt	540
27	agttagttta gcaaactaat ggattcagac tagtccacca tatatttggt ctataaatga	600
28	aagtgtgaagc atttcacctc aagagtaatg tggcaacgca ggaactgaaa tcactagacc	660
29	gtttctgaca ccagtagtga ag	682

31 <210> SEQ ID NO: 2  
 32 <211> LENGTH: 689  
 33 <212> TYPE: DNA  
 34 <213> ORGANISM: Fusarium proliferatum  
 35 <400> SEQUENCE: 2

36	gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaac	60
37	agctatgggt caagtctgat atcttttagga ggggcgaagc tctctttatt gtgagggcga	120
38	ggtatataac accataggac tggccgcccc atatgaaaag attatattag aattgaatga	180
39	agctttgttt atatattgat aatgacagta tatatatcgt gtcttgacta attgctgctc	240
40	agcagtcgct gtaatacgtg agagactagt gttattcatc ttaattagggt ttaaagggta	300
41	cccagacggt caatatagct tataaaatgt tagtacttga ctagagtttt atgtaagagg	360
42	gcagtacttg aggaggagag atgaaatttc gtgataccaa agggactctg taaaggcgaa	420
43	ggcagccctc tatgtaaaaa ctgacgttga aggacgaagg cacagagaa aaacaggatt	480
44	agatacccaa gtagtctttg cagtaaatga tgaatgccat aggttagatg ggtgggctcg	540
45	tctagttgag ttagtttagc aaactaatga tctagacgag cccaccgtat atttggctca	600

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46      taaatgaaag tgtaagcatt tcacctcaag agtaatgtgg caacgcagga actgaaatca      660
47      ctagaccgtt tctgacacca gtagtgaag                                     689
49 <210> SEQ ID NO: 3
50 <211> LENGTH: 726
51 <212> TYPE: DNA
52 <213> ORGANISM: gibberella zeae (syn. Fusarium graminearum)
53 <400> SEQUENCE: 3
54      gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaca      60
55      gctatgggtc aagcccgata cttttaagag aagtcttatt gtgagggcga gttgtataac    120
56      accatagggc tggccgcccc atatgaaaag attttattag aattgaatga aactttgttt    180
57      atatattgat aatgacagta tatatatcgt gtcttgacta attgctgccc agcagtcgcg    240
58      gtaatacgta agagactagt gttattcatc ttaattaggt ttaaagggta cccagacggg    300
59      ctatatagct tataaaatgt tagtataaga ctagagtttt atgtaagagg gcagtacttg    360
60      aggaggagag atgaaatttc gtgataccaa agggactctg taaaggcgaa ggcagccctc    420
61      tatgtaaaaa ctgacgttga aggacgaagg cacagagaac aaacaggatt agatacccaa    480
62      gtagtctttg cagtaaatga tgaatgccat aggttagatc tatatttcta ttataataat    540
63      acatttctat tatttattat aaaacgcatt ccttatatag cttcgcgcta taatatattt    600
64      tatatatagt gcagcagaaa tttttgtatc tggctataaa atgaaagtgt aagcatttca    660
65      cctcaagagt aatgtggcaa cgcaggaact gaaatcacta gaccgtttct gacaccagta    720
66      gtgaag                                     726
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69 <211> LENGTH: 690
70 <212> TYPE: DNA
71 <213> ORGANISM: Fusarium subglutinans
72 <400> SEQUENCE: 4
73      gctaacggct gaactggcaa cttggagaag tggcaagtct tccagtatgg ggagcaaaac      60
74      agctatgggt caagtccgat atcttttaga ggcgcgaagc tcctcttatt gtgagggcga    120
75      gttttataac accataggac tggccgcccc atatgaaaag attatattag aattgaatga    180
76      agctttgttt atatattgat aatgacagta tatatatcgt gtcttgacta attgctgccc    240
77      agcagtcgcg gtaatacgta agagactagt gttattcatc ttaattaggt ttaaagggta    300
78      cccagacggg caatatagct tataaaatgt tagtacttga ctagagtttt atgtaagagg    360
79      gcagtacttg aggaggagag atgaaatttc gtgataccaa agggactcgg taaaggcgaa    420
80      ggcagccctc taggtaaaaa ctgacgttga aggacgaagg cacagagaac aaacaggatt    480
81      agatacccaa gtagtctttg cagtaaatga tgaatgccat aggttagatc tgagttggta    540
82      gtctagttga gttagtttac taaactaatg atctatacaa gccagcctta gatttggtct    600
83      ataaatgaaa gtgtaagcat ttcacctcaa gagtaatgtg gcaacgcagg aactgaaatc    660
84      actagaccgt ttctgacacc agtagtgaag                                     690
86 <210> SEQ ID NO: 5
87 <211> LENGTH: 522
88 <212> TYPE: DNA
89 <213> ORGANISM: Fusarium subglutinans
90 <400> SEQUENCE: 5
91      tccgttgggtg aaccagcgga gggatcatta ccgagtttac aactcccaa cccctgtgaa      60
92      cataccaatt gttgcctcgg cggatcagcc cgctcccggg aaaacgggac ggcccggcag    120
93      aggacccta aactctgttt ctatatgtaa cttctgagta aaaccataaa taaatcaaaa    180
94      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaa atgcgataag    240
95      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgccgcca    300
96      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagccca gcttgggtgt    360
97      gggactcgcg agtcaaatcg cgttcccaa attgattggc ggtcacgtcg agcttccata    420

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98      gcgtagtagt aaaaccctcg ttactggttaa tcgtcgcggc cagcccgta aacccaact      480
99      tctgaatggt gacctcggt caggtaggaa tacccgctga ac      522
101 <210> SEQ ID NO: 6
102 <211> LENGTH: 521
103 <212> TYPE: DNA
104 <213> ORGANISM: Gibberella zeae
105 <400> SEQUENCE: 6
106      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaa cccctgtgaa      60
107      cataccttat gttgcctcgg cggatcagcc cgcccccgt aaaaaggac ggcccgccg      120
108      aggaacccta aactctgttt ttagtggaac ttctgagtat aaaaaacaaa taaatcaaaa      180
109      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaaa atgcgataag      240
110      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccgcga      300
111      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagccca gcttggtgtt      360
112      gggagctgca gtctgctgc actcccaaa tacattggcg gtcacgtcga gttccatag      420
113      cgtagtaatt tacacatcgt tactggtaat cgtcgcgcc acgccgttaa accccaact      480
114      ctgaatgttg acctcggtac aggtaggaa acccgctgaa c      521
116 <210> SEQ ID NO: 7
117 <211> LENGTH: 534
118 <212> TYPE: DNA
119 <213> ORGANISM: Fusarium proliferatum
120 <400> SEQUENCE: 7
121      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaa cccctgtgaa      60
122      cataccaatt gttgcctcgg cggatcagcc cgctcccgt aaaaaggac ggcccgccag      120
123      aggacccta aactctgttt ctatatgtaa cttctgagta aaaccataaa taaatcaaaa      180
124      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaaa atgcgataag      240
125      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccgcga      300
126      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagcccc cgggtttggt      360
127      gttggggatc ggcgagccct tgcggcaagc cgccccgaa atctagtggc ggtctcgctg      420
128      cagcttccat tgcgtagtag taaaaccctc gcaactggt cgcggcgcg ccaagccgtt      480
129      aaaccccaa cttctgaatg ttgacctcgg atcaggtagg aataccgct gaac      534
131 <210> SEQ ID NO: 8
132 <211> LENGTH: 522
133 <212> TYPE: DNA
134 <213> ORGANISM: Fusarium verticillioides (syn. F. moniliforme)
135 <400> SEQUENCE: 8
136      tccgttggtg aaccagcgga gggatcatta ccgagtttac aactcccaa cccctgtgaa      60
137      cataccaatt gttgcctcgg cggatcagcc cgctcccgt aaaaaggac ggcccgccag      120
138      aggacccta aactctgttt ctatatgtaa cttctgagta aaaccataaa taaatcaaaa      180
139      ctttcaacaa cggatctctt ggttctggca tcgatgaaga acgcagcaaa atgcgataag      240
140      taatgtgaat tgcagaattc agtgaatcat cgaatctttg aacgcacatt gcgcccgcga      300
141      gtattctggc gggcatgcct gttcgagcgt catttcaacc ctcaagccca gcttggtgtt      360
142      gggactcgcg agtcaaactg cgttcccaaa attgattggc ggtcacgtcg agcttccata      420
143      gcgtagtagt aaaaccctcg ttactggttaa tcgtcgcggc cagcccgta aacccaact      480
144      tctgaatggt gacctcggt caggtaggaa tacccgctga ac      522
146 <210> SEQ ID NO: 9
147 <211> LENGTH: 19
148 <212> TYPE: DNA
149 <213> ORGANISM: Artificial sequence
150 <220> FEATURE:

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Input Set : N:\Crf3\RULE60\10773905.raw.txt

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151 <221> NAME/KEY: misc_feature
152 <222> LOCATION: (1)..(19)
153 <223> OTHER INFORMATION: Primer ITS1
154 <400> SEQUENCE: 9
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157 <210> SEQ ID NO: 10
158 <211> LENGTH: 20
159 <212> TYPE: DNA
160 <213> ORGANISM: Artificial sequence
161 <220> FEATURE:
162 <221> NAME/KEY: misc_feature
163 <222> LOCATION: (1)..(20)
164 <223> OTHER INFORMATION: Primer ITS2
165 <400> SEQUENCE: 10
166      gctgcgttct tcatcgatgc                      20
168 <210> SEQ ID NO: 11
169 <211> LENGTH: 20
170 <212> TYPE: DNA
171 <213> ORGANISM: Artificial sequence
172 <220> FEATURE:
173 <221> NAME/KEY: misc_feature
174 <222> LOCATION: (1)..(20)
175 <223> OTHER INFORMATION: Primer ITS3
176 <400> SEQUENCE: 11
177      gcatcgatga agaacgcagc                      20
179 <210> SEQ ID NO: 12
180 <211> LENGTH: 20
181 <212> TYPE: DNA
182 <213> ORGANISM: Artificial sequence
183 <220> FEATURE:
184 <221> NAME/KEY: misc_feature
185 <222> LOCATION: (1)..(20)
186 <223> OTHER INFORMATION: Primer ITS4
187 <400> SEQUENCE: 12
188      tcctccgctt attgatatgc                      20
190 <210> SEQ ID NO: 13
191 <211> LENGTH: 21
192 <212> TYPE: DNA
193 <213> ORGANISM: Artificial sequence
194 <220> FEATURE:
195 <221> NAME/KEY: misc_feature
196 <222> LOCATION: (1)..(20)
197 <223> OTHER INFORMATION: Primer FCORN1
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199      gcaacttgga gaagtggcaa g                      21
201 <210> SEQ ID NO: 14
202 <211> LENGTH: 20
203 <212> TYPE: DNA
204 <213> ORGANISM: Artificial sequence

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205 <220> FEATURE:
206 <221> NAME/KEY: misc_feature
207 <222> LOCATION: (1)..(20)
208 <223> OTHER INFORMATION: Primer FCORN2
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213 <211> LENGTH: 20
214 <212> TYPE: DNA
215 <213> ORGANISM: Artificial sequence
216 <220> FEATURE:
217 <221> NAME/KEY: misc_feature
218 <222> LOCATION: (1)..(20)
219 <223> OTHER INFORMATION: Primer FSUB1
220 <400> SEQUENCE: 15
221     gtccgatatc tttaggaggc                                20
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224 <211> LENGTH: 21
225 <212> TYPE: DNA
226 <213> ORGANISM: Artificial sequence
227 <220> FEATURE:
228 <221> NAME/KEY: misc_feature
229 <222> LOCATION: (1)..(21)
230 <223> OTHER INFORMATION: Primer FSUB2
231 <400> SEQUENCE: 16
232     tcaactagac taccaactca g                                21
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235 <211> LENGTH: 21
236 <212> TYPE: DNA
237 <213> ORGANISM: Artificial sequence
238 <220> FEATURE:
239 <221> NAME/KEY: misc_feature
240 <222> LOCATION: (1)..(21)
241 <223> OTHER INFORMATION: Primer FSUB3
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243     caaatctaag gctggcttgt a                                21
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248 <213> ORGANISM: Artificial sequence
249 <220> FEATURE:
250 <221> NAME/KEY: misc_feature
251 <222> LOCATION: (1)..(20)
252 <223> OTHER INFORMATION: Primer FVERT1
253 <400> SEQUENCE: 18
254     tggtagacta gtctgaatcc                                20
256 <210> SEQ ID NO: 19
257 <211> LENGTH: 20
258 <212> TYPE: DNA

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/773,905

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TIME: 14:59:03

Input Set : N:\Crf3\RULE60\10773905.raw.txt  
Output Set: N:\CRF4\08302004\J773905.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 3

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/773,905

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Input Set : N:\Crf3\RULE60\10773905.raw.txt

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